PURPOSE: To clarify the requirements of Rule 3745-30-04(C) of the Ohio Administrative Code (OAC) with regards to meeting the ground water provisions for a Class IV landfill. This policy shall also apply the ground water waiver concepts of OAC 3745-30-04(C) to projects regulated under Chapter 6111 of the Ohio Revised Code (ORC) and administered by the Division of Water Pollution Control (DWPC) and the Division of Environmental and Financial Assistance (DEFA).

BACKGROUND: OAC Rule 3745-30-04(C) establishes provisions for Class IV residual landfills. For a landfill to be declared a Class IV landfill, it must meet all the siting criteria for Class III landfills as contained in OAC Rule 3745-30-06. In addition, the concentrations of all constituents must be lower in the landfill’s leachate than in the ground water of the first saturated zone beneath the landfill. If this is the case, then the ability of the facility to detect a release from the facility utilizing ground water monitoring is limited as the release should appear as a plume of "cleaner" ground water. Because of the above, facilities declared Class IV landfills do not have to be monitored for their impact on the ground water [OAC Rule 3745-30-04(C)(3)].

Class IV landfills must be located in an area where the ground water has not been degraded due to human activities. The only exception to this is if the degradation was due to permitted mining operations or pre-law mining operations [OAC Rule 3745-30-04(C)].

OAC Rule 3745-30-04(C)(2) establishes the information requirements to be submitted with the request for a Class IV designation. These include submitting a complete chemical characterization of actual leachate from the facility or of leachate from an existing site disposing of waste similar to that which will be disposed of by the facility. Also the facility must characterize the ground water beneath it.

OAC Rule 3745-30-04(C)(4) establishes provisions for allowing facilities with a small number of constituents higher in the leachate than in the ground water to qualify for one or all of the Class IV landfill requirements including the waiving of ground water monitoring. This is allowed as long as the facility can demonstrate that the waiving of ground water monitoring requirements will not cause a nuisance, a health hazard, or violate any requirements of ORC 3734 or ORC 6111.

Facilities regulated under programs administered by DWPC and DEFA can have ground water monitoring waived if the facility meets the information and performance standards outlined in OAC Rule 3745-30-04(C). These types of facilities do not have to meet the siting criteria that Class IV landfills have to meet or meet the concentration levels for Class IV landfills in Appendix I of OAC Rule 3745-30-04.

This policy and guidance will:

1. Expand the ground water monitoring waiver concept of OAC Rules 3745-30-04(C) to those facilities regulated under ORC 6111; and

2. Clarify the meaning and intent of certain portions of OAC Rules 3745-30-04(C).
POLICY: Ground water monitoring requirements for non-hazardous waste storage, treatment, or disposal facilities may be waived or modified in areas where the concentration of chemical constituents in the ground water of the first saturated zone beneath the facility can be shown to be higher than the concentration of the same chemical constituents in the leachate/waste water from the proposed, modified, or existing waste storage, treatment, and disposal facility.

PROCEDURE: All facilities covered by this policy must meet the information and performance standards outlined in OAC Rule 3745-30-04(C). Facilities regulated under ORC 6111 and administered by DWPC and DEFA do not have to meet the siting criteria that Class IV landfills must meet or meet the concentration levels for Class IV landfills in Appendix I of OAC 3745-30-04.

GUIDANCE: OAC 3745-30-04(C)(3) states that "all constituents" must be lower in concentration in the leachate than in the ground water. What is meant by "all constituents"?

"All constituents" is interpreted to mean all constituents reasonably expected to be found in the leachate. This will be determined by the composition of the waste disposed of in the facility. To meet this provision, facilities should at least analyze their leachate for the constituents listed in Appendix III of OAC 3745-30-08.

Can statistics be used to demonstrate that the leachate constituent concentrations are statistically the same in the leachate as in the ground water?

No, statistics can only be used to show that leachate constituent concentrations are statistically less in the leachate than in the ground water. This is consistent with the language of OAC 3745-30-04(C) in requiring that the constituents must be lower in concentration in the leachate than in the ground water.

How many leachate and ground water samples must be analyzed to demonstrate that constituent concentrations are lower in the leachate than in the ground water?

At least three statistically independent samples of both the ground water and the leachate should be analyzed for the purpose of demonstrating that the constituent concentrations are lower in the leachate than in the ground water. The average of the three analysis results shall be used to demonstrate compliance with the requirements of OAC 3745-30-04(C). Any outlier may be replaced by additional analysis, but the facility must document that the outlier is not indicative of the leachate or ground water quality and is probably due to sampling or laboratory error.

What is meant by the phrase "a small number of constituents..." in OAC 3745-30-04(C)(4)?

A small number of constituents should be no more than five (5) constituents.

How much higher in concentration can the constituent be in the leachate than in the ground water and still qualify for the waiver from ground water monitoring?

OAC 3745-30-04(C)(4) requires that the concentration not be so much higher in concentration in the leachate than in the ground water that a release would cause a nuisance, health hazard, or a violation of ORC 3734 or 6111 occurs. This means that the facility must demonstrate that a release from the facility will cause no measurable impact in the ground water sampled from the monitoring system. This demonstration must be completely documented and supported.